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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/574,573

04/04/2006

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EXAMINER

BERNATZ, KEVIN M

ART UNIT

PAPER NUMBER

1794

NOTIFICATION DATE

DELIVERY MODE

12/09/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/574,573 | Applicant(s) MAEDA ET AL. | |
| | Examiner Kevin M. Bernatz | Art Unit 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Amendments to claims 1 and 2, filed on August 4, 2009, have been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Column and line (*or Paragraph Number*) citations have been provided as a convenience for Applicants, but the entirety of each reference should be duly considered.

Claim Rejections - 35 USC § 103

4. Claims 1 - 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriwaki et al. (U.S. Patent App. No. 2003/0219630 A1), alone or further in view of Applicants' admissions.

Regarding claims 1, 3, 4 and 19, Moriwaki et al. and/or Applicants' admissions are relied upon for the reasons of record as cited in Paragraph No. 3 of the Office Action mailed on May 4, 2009.

Regarding amended claim 2, the Examiner deems that one of ordinary skill in the art would be motivated to make and use the claimed relative mixing ratio of the two substances (*SiO₂ and the total amount of Li, Na, K, Rb and Cs*) in searching for an optimal matrix oxide. The necessary motivation rises from ***the expectation that***

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similar compounds will have similar properties. *In re Payne*, 606 F.2d 303, 203 USPQ 245 (CCPA 1979). In the instant case, Moriwaki et al. provides guidance that oxides of Si, as well as oxides of substances meeting the claimed limitations are suitable materials for use as the matrix material (*Paragraphs 0019 - 0021*).

Therefore, the Examiner deems that it would have been obvious to one having ordinary skill in the art to determine an amount of the relative substances meeting Applicants' claimed mol percents by optimizing the results effective variable through routine experimentation. *In re Boesch*, 205 USPQ 215 (CCPA 1980); *In re Geisler*, 116 F. 3d 1465, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); *In re Aller*, 220 F.2d, 454, 456, 105 USPQ 233, 235 (CCPA 1955). The Examiner notes that Applicants' admissions provides clear evidence that mixed oxides of oxides + SiO_x are established formulations in the art (*see also page 10 of response summarizing Applicants' admissions*).

5. Claims 5 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriwaki et al., alone or in view of Applicants' admissions as applied above, and further in view of Kokubu et al. (JP 2002-334424 A) and Oikawa et al. (U.S. Patent No. 6,696,172 B2) for the reasons of record as set forth in Paragraph No. 5 of the Office Action mailed on May 4, 2009.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moriwaki et al., alone or in view of Applicants' admissions as applied above, and further in view of Shimizu et al. (U.S. Patent App. No. 2002/0160232 A1) for the reasons of record as set forth in Paragraph No. 6 of the Office Action mailed on May 4, 2009.

Response to Arguments

7. The rejection of claims 1 – 8, 19 and 20 under 35 U.S.C § 103(a) – Moriwaki et al. in view of various references

Applicant(s) argue(s) that the amendments to claim 1, requiring an alkali metal oxide in the grain boundaries in addition to an oxide of silicon results in unexpected results in SNR_m due to at least the reduction in the melting temperature or T_g of the SiO_x (*pages 7 - 8 of response*). Applicants further argue that these compounds are *not* functionally equivalent for substantially the same reasons (*pages 9 – 11 of response*). The Examiner respectfully disagrees.

First, it is noted that “the arguments of counsel cannot take the place of evidence in the record”, *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the Examiner's position that the arguments provided by the applicant regarding the unexpected results must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), “the reason for requiring evidence in a declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001”.

Second, the Examiner notes that the present claims are not commensurate in scope to the alleged unexpected results, for at least the following reasons:

1) the present claims do not require that the "at least one element" is also in the form of an oxide - i.e. claim 1 recites that the grain boundaries contain (1) an oxide of silicon and (2) at least one element selected from the group consisting of ... Cs. It appears that Applicants are inferring that the "oxide" limitation applies to both "of silicon" and "at least one element selected from ...", but the claims are presently unclear in this regard;

2) the examples pointed to for a showing of unexpected results in SNR all utilize at least a CoCrPt based magnetic layer (*see present claim 3*), where it is well established in the art that the choice of magnetic layer material clearly impacts the SNR of the medium; and

3) the examples pointed to are only commensurate with a certain mixing ratio of the second oxide to the silicon oxide (*e.g. see present claim 2*).

Given that the present claims are not commensurate in scope to the alleged showing of unexpected results, and that the alleged unexpected results are not presented in evidentiary form (*i.e. as an executed affidavit or declaration swearing to their validity*), the Examiner does not find the presented arguments convincing.

Regarding the arguments presented to claim 2, the Examiner notes that these arguments are moot given the new treatment of claim 2 above.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Applicants' amendment resulted in embodiments not previously considered (i.e. the new treatment of claim 2) which necessitated the new grounds of rejection, and hence the finality of this action.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kevin M. Bernatz whose telephone number is (571) 272-1505. The Examiner can normally be reached on M-F, 9:00 AM - 5:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mark Ruthkosky can be reached on (571) 272-1291. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kevin M Bernatz/
Primary Examiner, Art Unit 1794

December 3, 2009